

Microgranulometry and methods of applications.

Abstract

We disclose an apparatus and process for measuring the granulometry separations in discrete media and unconsolidated sediments for relatively small sample quantities (5cc containers of drilling cuttings). A small diameter glass tube may be filled with a small amount of sample, and water added. After shaking it and placing it vertically, the larger, denser particles will settle near the bottom. Particle size will tend to decrease in size towards the top. Placing the tube near an array of sensors may perform a quantitative analysis. These include but are not limited to sonic, gamma and optical sensing. One or more sensors are slowly moved past the tube and digitized readings be recorded. The collected readings are interpreted by the quantity and sizes of particles and by their distribution. The results may be presented in various ways. Also the results produced may be used to calculate the Environmental Index of energy of accumulation and to quantify the relative permeability of a potential reservoir (as disclosed by the author in patent No. US 6,301,953 B1, Date Oct. 16,2001, Quantifi-

cation of drilling mud cuttings characteristics as a measure of relative permeability.